

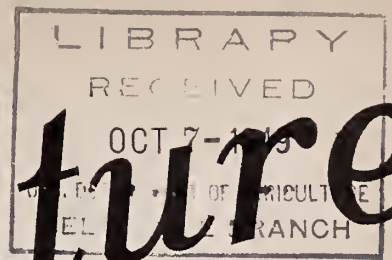
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FRONT COVER

Italian Peasant

Thousands of landless Italians will be given farms of their own under the Government's proposed land redistribution plan. (Photo by courtesy of ECA.)

BACK COVER

Map Showing Large Private Holdings of Italian Farm Property According to Size and Assessed Income

Under Italy's land reform program, large owners will contribute a proportion of their acreage to a land pool from which small holdings will be established. Proportions to be contributed will be governed by the assessed value of the land.

NEWS NOTES

United Nations Day To Be Observed This Month

The United Nations is celebrating another birthday this month. On October 24, 4 years ago, all

necessary ratifications of the Charter had been deposited, and it took effect as world law.

During these 4 years, United Nations achievements have been far-reaching in social, economic, and political fields. But to maintain these gains and to further strengthen world peace and economic prosperity, much remains to be done. For its success, the United Nations depends on the support of the people of the world.

For this reason, the General Assembly of the United Nations established United Nations Day 2 years ago by unanimous resolution, which stated that "the day shall be devoted to making known to the peoples of the world the aims and achievements of the United Nations and to gaining their support of the work of the United Nations."

Such an international birthday celebration should contribute greatly to world-wide understanding of the importance of the United Nations and of its work to build a peaceful world.

Korean Farm Leaders Observe USDA Techniques

Nine Korean agricultural specialists are in the United States to observe techniques developed or endorsed by the United States Department of Agriculture. Under a program of economic rehabilitation sponsored by the Department of State, these farm leaders are spending from 4 to 6 months visiting laboratories, experiment stations, extension offices, national forests, and irrigation and conservation projects with a view toward enabling them to make greater contributions to the agricultural economy of Korea.

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FOREIGN AGRICULTURE

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ALICE I. FRAY, EDITOR

Land Redistribution: One Aspect Of Agrarian Reform in Italy

By HOWARD R. COTTAM, ROBERT A. BRAND, VICTOR B. SULLAM



A committee of ministers representing all parties in the Italian Government is ready to hold public hearings preparatory to writing draft legislation

on a land redistribution program. In a public statement in April, Premier Alcide DeGasperi revealed the broad lines of such a program under which an estimated 3.7 million acres from large private holdings and from public lands would be made available for the creation of small holdings. Additional details of the program were made public after a meeting of the Cabinet on August 2.

This program of land redistribution is one aspect of a broad program of agrarian reform to which the Government is committed not only by constitutional provisions but also by campaign and post-election promises made by the Christian Democratic Party. Moreover, virtually all political parties are committed to a degree of action toward changing the social structure of Italian agriculture. The program developed by the Government to implement promises made during the campaign recognizes four major phases: (1) Reform of farm tenancy contracts, (2) reform of farm labor-management relations, (3) compulsory reclamation of specified undeveloped areas, and (4) limitation on size of individual holdings. These are in addition to a broader effort to improve agriculture by technical research, farmer education, better cultural practices, and improved marketing.

Political Background Of the Government's Program

Closely interwoven political, social, and economic factors have impelled the Italian Government to take action on the age-old problem of land distribution. For centuries, incipient uprisings because of land hunger have been averted by promises, indirect concessions, or tightened political controls. The Fascist Government's answer to the problem was a combination of several methods presented to the public in the neat package of sensational but costly, and therefore limited, "bonifica," or land reclamation projects.

While these undertakings dramatically added a small amount of productive surface to Italian agriculture, they benefitted relatively few families and dodged the underlying pressures for land ownership and general improvement in standards of living. Only in a few cases where the state carried out reclamation projects through its own colonization agencies were small owner-operated holdings established.

While these "bonifica" programs included reclamation and land improvement, they did not lead to basic changes in land ownership. One of the early concerns of the leftist partisans after the Armistice was land division, and drastic and immediate action was forestalled only by the insistence of the Allied Military Government for orderly consideration of the problem by a new democratic government. Throughout the period of formation of this government the landless peasants were led to hope for land benefits while leftist parties made political capital of this hope.

The party of the majority, the Christian Democratic, has long been committed to programs favoring the formation of small holdings. During the drafting of the constitution, virtually all leading personalities of the party went on record favoring the inclusion in the constitution of provisions that would empower the government to take measures designed to reach a redistribution of farm land. As a result of their efforts, Article 44 of the Italian Constitution reads:

"For the purpose of securing a rational exploitation of the soil and of establishing just social relationships, the law imposes obligations and restrictions on private property land; it fixes limits to its extension according to the region and agrarian zone; it promotes and requires reclamation, the transformation of latifundia, and the reconstitution of productive units, it aids the small and medium-scale proprietor."

At first the Christian Democrat leaders talked in terms of a ceiling on the size of individual holdings to

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be applied more or less uniformly throughout the country. The ceiling of 250 acres frequently mentioned was extremely low, especially for certain underdeveloped sections of the country where farms of this size could not be operated on a paying basis.

As a counterargument, the more conservative elements in Italian politics were advocating only a program of compulsory development under which landowners unwilling or financially unable to bear their share of the costs for the compulsory improvement would be forced to sell part of their land. This plan would have committed Italy to a long-term program but would not necessarily have led to fulfillment of peasant aspirations to ownership.

Toward the middle of April 1949 the press reported more and more frequently that the Government was going to adopt a program to redistribute land, not on the basis of a fixed ceiling on acreage but rather on the basis of the value of land as assessed for tax purposes. On April 17 the Premier announced the broad bases of the program, and on August 2 the Cabinet heard Minister of Agriculture Antonio Segni outline the program and appointed an interparty committee to hold public hearings and to draft legislation.

Socio-Economic Bases of Land Division in Italy

From the political point of view, many Italian leaders consider land division to be imperative. The mainsprings of this compulsion are social and economic conditions that are considered intolerable in a modern society, especially since these conditions have been dramatized through the political upheaval wrought by Fascism and the war and the subsequent free establishment of a republic. Low standards of living, stemming from inefficient utilization of resources that long have been outstripped by a rapidly increasing population, bespeak the need for changes in the structure of Italian agriculture.

From a social point of view, most Italians agree that rural living conditions, particularly in the more backward south, cannot be tolerated in a modern country.

Senator Giuseppe Medici, President of the National Institute of Agrarian Economy, pointed out the reasons for land redistribution as follows:

"Why a law to alter the present distribution of landed property if in a free market natural forces tend to bring about what is, in the interest of production, the best distribution?

"The answer is that in Italy the rural population is so heavy that land is extremely limited and in some areas constitutes a monopoly. If in these areas the right to hold property had not become the privilege of

a few great families, there would not today be the need for agrarian reform . . .

"When from half to three-quarters of the land in one town is owned by one or two proprietors, landless peasants have little hope of acquiring property since under normal conditions large owners do not sell and there is, therefore, no market . . .

"This situation is prevalent particularly in some central and southern areas. Here there is not only the problem created by the monopoly of land held by a few landlords, often absentee landlords, but also the unsolved problem of state-owned land always present in the peasant's mind . . .

"It is generally recognized that the gradual implementation of a redistribution of landed property should develop along with a comprehensive reclamation plan to consolidate the new ownership situation . . ."

With the exception of certain areas where large holdings have been made into efficient commercial farms, statistics show the areas of concentrated land ownership to be the most depressed in Italy. A lower level of living in these areas of large holdings is reflected in objective measurements of illiteracy, sanitation, infant mortality, housing conditions, and levels of consumption of essential commodities. Moreover, the aspirations of the Italian peasant are not fulfilled merely by improving his standard of living. He wants land of his own.

Many critics point out that, from an economic point of view, the present system of land tenure prevents, in many parts of Italy, effective utilization of agricultural resources. In those areas, it has not encouraged the high levels of investment in land that are necessary to maximize production; it has not fostered good management of agricultural resources and farm enterprises; nor has it produced badly needed technical improvements. In addition, what is produced under the existing system is neither marketed in an efficient manner nor are the proceeds equitably distributed between landowners and the persons who actually till the soil. In certain backward areas where large holdings predominate, land development has been limited because (a) the tenants or hired workers have had no incentive to develop, without adequate recompense, land owned by others and (b) owners have been unable or unwilling to invest the amounts necessary to develop their own holdings. On the other hand, there are similar areas that have been developed by sheer hard work on the part of peasant owners and their families. In these cases, where labor was the main investment, the peasants were willing to exert the effort necessary to improve land that was their own since they realized that they personally would get the benefits of any improvements.

Pattern of Land Ownership

Accurate detailed information on the distribution of land in Italy was lacking until the recent publication of *Distribuzione della Proprieta Fondiaria in Italia* (the *Distribution of Landed Property in Italy*) by the National Institute of Agricultural Economics, showing the distribution of holdings classified by both area and assessed taxable income.

In its study the Institute found 77.5 percent of the land was owned by private individuals and that the remaining 22.5 percent was held by towns, the state, the church, welfare institutions, commercial corporations, and agrarian associations (a special form of communal use practiced largely in mountain areas).

To identify ownership of all the 9.5 million private holdings in Italy would be laborious since more than four-fifths are under 5 acres in size.

Efforts were therefore concentrated during the survey on the problem of identifying more accurately the ownership of the larger holdings. The Institute then calculated and has published statistics on holdings of 120 acres or more. These larger holdings were listed together for each private owner as one holding for all Italy. There still remains a gap in the information on total holdings in the case of land held by a corporation. The question of corporate holdings, according to the announcement of the Premier, will be studied separately, presumably in order to identify the persons controlling the corporations. Even without considering private shares in commercial corporations one-half of 1 percent of the landowners own more than one-third of the total area held as private property.

Land holdings were also classified for purposes of the survey on the basis of their assessed taxable income.

TABLE 1.—*Distribution of privately owned farm holdings of more than 50 hectares¹ (on national basis)*

Size of holding (in hectares)	Holdings		Area covered	
	Number of owners	Percent of total	Total hectares	Percent of total
50-70	14,881	32.2	877,042	11.3
70-100	10,535	22.8	875,178	11.3
100-150	8,071	17.4	983,638	12.7
150-200	3,951	8.5	681,964	8.8
200-300	3,737	8.0	907,297	11.7
300-500	2,676	5.7	1,015,376	13.1
500-1,000	1,648	3.5	1,128,802	14.5
1,000-2,500	558	1.2	806,384	10.4
Over 2,500	105	.2	460,177	5.9
Total	46,162	100.0	7,735,858	100.0

¹ A hectare equals 2.471 acres.

Source: Giuseppe Medici—"La Distribuzione della Proprieta Fondiaria in Italia," Volume II, page 46, Istituto Nazionale di Economia Agraria, Roma, October 1948.

NOTE: Classification is on nation-wide basis for holdings of more than 50 hectares; i. e., 2 or more holdings of an owner located anywhere in Italy are pooled and counted as one holding. Units of less than 50 hectares are not included.

The Institute then isolated all holdings with an assessed taxable income of more than 10,000 lire (\$525) and listed them together for each private owner as one holding for all Italy in the same manner as previously described for holdings of more than 50 hectares (124 acres). Similarly, the owner's share of corporate holdings is not included in this survey. When classified on the basis of assessed taxable income, the survey also shows the high concentration of ownership. A study of all properties on the basis of total assessed income shows that eight-tenths of 1 percent of the landowners own more than 42 percent of the total land since 76,752 owners out of a total of 9.1 million own land corresponding to an assessed taxable income of \$140 million out of a total of \$334 million aggregate for all privately held land.

Proposed Procedure for Land Division and Redistribution

The basic feature of the Governmental project is the creation of a "pool" of land from which a large number of small holdings will be established. Land is to be contributed to this pool by large landowners, the National Government, towns, and, after present studies are completed, by commercial corporations. Landowners will be called upon to contribute to the pool in proportion to the total assessed value of their land. The basic yardstick is to be the assessed income scale on which taxes have been levied since January 1, 1943, and which is based upon the average prices paid and received by farmers during the 3-year period, 1937-39.

In addition, all farming areas in the country have been classified as either extensive or intensive; this distinction refers to the amount of capital, both invested

TABLE 2.—*Distribution by assessed income class of privately owned farm holdings with assessed taxable income of more than 10,000 lire¹*

Assessed income class (in 1,000 lire)	Holdings		Assessed income		Area covered	
	Number of owners	Percent of total	1,000 lire	Percent of total	Hectares ²	Percent of total
10-15	28,014	36.4	339,964	12.8	903,428	13.5
15-20	13,402	17.4	231,077	8.7	605,156	9.0
20-30	13,256	17.2	322,615	12.2	826,469	12.4
30-40	6,512	8.4	224,889	8.5	560,222	8.4
40-60	6,466	8.4	313,630	11.8	763,149	11.4
60-100	4,876	6.3	371,754	14.0	883,840	13.2
100-200	2,970	3.8	404,960	15.2	991,248	14.6
200-500	1,092	1.4	309,395	11.6	769,953	11.5
Over 500	164	.9	134,095	5.1	382,761	5.7
Total	76,752	100.0	2,652,379	100.0	6,686,226	100.0

¹ Lire values are prewar; 19 lire to \$1.

² A hectare equals 2.471 acres.

Source: Ibid, page 128.

NOTE: These figures represent holdings of a given owner within the entire country.

and operating, per unit of land. The terms as used by the Premier imply a broad distinction between types of farming. Thus, a farm in central Sicily where wheat rotates with fallow or beans and which uses little fertilizer and machinery would be called extensive; an irrigated farm in Lombardy on which wheat is grown in rotation with rice and forage and on which there is widespread use of fertilizer and machinery is an intensive farm.

The amount of land to be contributed to the "pool" by private owners will vary according to the type of farming. In extensive areas, holdings assessed at less than \$2,100 will be completely exempt from the program. Above this level, land will be taken for the pool in direct proportion to the assessed income up to a ceiling of \$15,800 above which all land must be released to the pool. In intensive areas the same principle will apply with similar but more liberal criteria; that is, exemption up to \$3,160 and a ceiling of \$26,320 above which all land will be taken. In this manner, holdings that have been put into intensive production are favored by higher exemptions. Although the yardstick for redistribution is the assessed taxable income from property, area limits have also been set so that regardless of assessed income no owner will own more than 2,470 acres of arable land after expropriation, nor will any present owner be left with less than 74 acres.

The Minister of Agriculture estimated that from the total of 53.4 million acres in private holdings about 3 million will become available for redistribution. Out of the 1.3 million acres now held directly by the state (exclusive of resettlement agencies and state-owned corporations) and of the 8.6 million acres owned by towns, some 494,200 to 617,750 acres will also go into the so-called pool. The total amount made available for new small holders may therefore be as much as 3.7 million acres without reference to possible exemptions for special privately or corporately owned farms. In addition to private and Government-owned land, redistribution may also affect part of the 1.5 million acres now held by commercial corporations.

No land will be taken from the 1.1 million acres owned directly by the church and by religious orders, the 667,170 acres owned by welfare agencies, nor from the 2.1 million acres owned by resettlement agencies, nonprofit corporations, and the so-called agrarian associations.

All landowners, whether or not affected by the redistribution of land, will be required to comply with

certain development plans. The Premier has specifically stated that churches, religious orders, and charitable foundations, which are exempt from the program, will also have to comply with sound principles of good management and land improvement.

It is estimated that the program will affect about 8,000 private owners. Apparently all forest land in large estates is excluded from the program. Jointly held property may be subdivided in the case of joint ownership by heirs. Thus, an estate with an assessed taxable income of \$3,600 owned jointly and equally by two heirs may be considered as two holdings of \$1,800 total income and are exempted from the program. This would reduce the scope of the redistribution.

The procedure for the redistribution of land will be as follows. First, landowners affected by the legislation will be notified of the amount of land to be surrendered to the pool. They will be granted a period of time (possibly up to 3 years) during which they may either sell the land under Government supervision or grant it to peasants under a special type of contract providing option to purchase, known as *enfiteusis*, which has long existed in Italy but has had little importance in recent times.

After the expiration of this period, unsold land will be expropriated, the owners receiving compensation partly in cash and partly in redeemable interest-bearing bonds. State and town land will be granted in *enfiteusis* rather than sold outright. The Government agency in charge of resettlement, besides supervising the sale of private land, will be entrusted with the task of aiding the formation and assisting in the operation of small holdings through the provision of credit and technical assistance. In addition, cooperatives will be formed for marketing agricultural products, buying agricultural supplies, and for using farm machinery.

Cost of Land Division Program

The Premier stated that the total cost of redistribution will include compensation to landowners (which will not exceed 100 billion lire) and cost of improving the land (a total of 400 billion lire exclusive of public works, which will affect entire communities and not only the new small holdings).

The total amount of about \$870 million would be spent over several years. At present the Government is making a great effort to balance its expenditures, and, from this aspect, the redistribution plan may be expected to encounter considerable debate.

Time Schedule

The Premier indicated that the program will not begin at once all over Italy but will start in the reclaimed areas of Puglia and Lucania in the south, the coastal plains of Maremma in the western part of central Italy, and the province of Ferrara in the Lower Po Valley. Conspicuous by their absence from the list are the two islands of Sicily and Sardinia. The reason for their exclusion is probably the fact that both islands have a regional government and regional status. In this connection the Christian Democratic Party has been faced with the awkward problem of reconciling campaign promises of land redistribution with its party tenets of regional autonomy.

In choosing land for the pool, priorities are to be given to land presently undeveloped, land now worked by day laborers, land nearest to towns and villages in extensive areas, and land least essential to maintenance of present economic production units.

Although the proposal has been submitted to the Cabinet, it has not been stated that the entire program will be carried out in any given period of time. Some observers feel that either budgetary limitations or technical difficulties may delay full application for years.

Effect of Program on Agricultural Production

The Premier specifically stated that the program for land redistribution would be so administered as to avoid any decline in Italian agricultural production. The principal argument used by landowners and their political allies to oppose any program directly aimed at land redistribution (as well as for the proposed reform of farm tenancy contracts) has been that division of large estates would result in serious decreases in production. These groups have spared no effort to point out that such a fall in production would conflict with the basic aim of the European Recovery Program.

The adverse effects that these groups claim would result from a redistribution of land can be classified under three main headings:

1. The loss of administrative and productive efficiency caused by the break-up of highly organized and intradependent types of farms.
2. The low efficiency of peasant holdings, which may result from lack of skill and operating capital.
3. A loss, even in areas not formally affected, that would arise from lowered rates of owners' investment resulting from general uncertainty and a specific disinclination to invest in land about to be redistributed.

Proponents of the reform have presented the following counterarguments to these points:

1. Few of the large estates in Italy are operated as highly organized production units. In most, land is rented and re-rented to a multitude of peasants with little or no direction or interest from landlords. Such well-organized production units as the Lombardy dairy farms would be exempted from the program.

2. The present system does not offset the basic weaknesses of peasant farming since it does not provide the renter or subrenter with technical supervision or education or with better production tools, such as fertilizer, livestock, and machinery. The redistribution program, on the other hand, includes measures that will eliminate the ill effects of peasant farming and increase output through such provisions as providing credit for capital improvements and purchasing fertilizer and seed, making available technical advice and educating farmers in better agricultural techniques, providing cooperatives for marketing and purchasing agricultural supplies, and arranging for joint use of machinery by small landholders.

3. Owners' investments in long-term mobile improvements will not be affected since these would continue to be used by the owner on the portion of land that he retains. There will, of course, be a temporary decline in the rate of fixed investments, especially on land that the owners may surrender to the pool.

In addition, those favoring the program have noted that the establishment of small land holdings creates a spirit of interest and initiative on the part of the owner, which leads him to take a personal interest not common among those who farm land owned by another. These advocates argue that a small owner-operator class represents a stable conservative political force in the rural areas where it already exists and point out that the establishment and maintenance of such a class of private owners is a basic aim of the Government, which differs fundamentally from Communist proposals for land division.

Those who support the idea of redistribution also point out that in Italy there is no "agricultural ladder" to ownership as in most other countries; that is, the lack of a land market in Italy makes it extremely difficult for tenants to become owners or for laborers to become tenants. That it is difficult to acquire land in Italy is indicated in the limited number of sales, the high market price in relation to productive value, high rentals, and in the prestige value of land. It is said that in some parts of Italy a man's social status depends more on the number of hectares he owns than on his income. During the recent period of inflation, there has been even more than normal hesitance about selling land. During 1948, about 200,000 sales contracts were registered affecting only about 3 percent of the arable land. This turnover was about half as much as in 1937-38.

Relation of Land Redistribution to Other Phases of the Agrarian Reform

The program for land redistribution and the proposed reforms of both tenancy and farm-labor contracts are not expected to be directly related except in the case of those well-organized large farms where production depends on continued centralized management and which the Premier mentioned as exempt from the redistribution program. On such well-organized large holdings, social goals equivalent to those achieved elsewhere through land redistribution would be reached through the participation of labor in managerial decisions and profit sharing.

On the other hand the land redistribution program will bear an important relationship to the program that the Government has already begun for compulsory development and reclamation. Work carried out under the reclamation program will create, through the construction of roads and houses as well as drainage and irrigation canals, both the social and physical foundations on which land redistribution will be based. The public works referred to in the Premier's statement on the cost of the program will be, in a great many cases, carried out under the compulsory reclamation law and will thus be complementary to expenditures necessary to improve land that is redistributed to small holders.

The decree for compulsory reclamation will also complement the redistribution program through the provisions requiring sale of a portion of the holding in the event of the landowner's inability to finance the necessary work. This may affect large ill-developed holdings within reclamation districts, but its most important application will probably be in bringing about changes in ownership of small undeveloped holdings that might remain untouched by the redistribution program because of their low total taxable income. There is also a relationship between reclamation and the redistribution program in the case of landowners who have had the initiative and the capital to carry out reclamation and development. Italian law provides that for a period of 20 years after the announced completion of the work necessary for reclamation and development of land, owners will continue to be taxed on the basis of the assessed taxable income from the land in its former undeveloped state. Thus the highly productive reclaimed lands in the Lower Po Valley are still taxed on the basis of their assessed income as swamps and are valued as such for purposes of the redistribution program. It does not, therefore, penalize the more progressive farm operators.

Problems To Be Solved

The broad policy lines laid down by the Premier suggest several knotty problems that are still to be solved.

Although the upper limits have been announced as to the amount of land a person may hold at the time of redistribution, owners of very large estates will still be able to own up to 2,470 acres after division under the proposed law. Holdings of this size may still remain a constant cause of dissatisfaction in areas where population pressure and consequent land hunger exist.

Inasmuch as no permanent area limit for landholdings is apparently to be set, there is no legal provision to prevent speculators or bona fide large-scale farmers from repurchasing land from new small holders when crop failure or other factors make it necessary for small farmers to obtain cash or credit.

The adoption of income and the exclusion of area as a basis for land division may, in areas outside the compulsory development districts mentioned above, favor owners who have not heretofore improved their land by investment and technical direction and have low assessed rates.

How will new owners be selected? Will people living on the particular piece of land have priority to purchase? Will occupational experience, age, family composition, political affiliation be considered?

What will be the limits on the area that new small holders may purchase in the various types of farming areas? If the units are extremely small, they may be uneconomic and not result in raising living standards; if they are too large, relatively few families will benefit.

It is not clear at present what decision will be made on the classification of a proprietor who has already been forced to sell a portion of his land within a reclamation district established under the acceleration program (Law, December 31, 1947).

The Premier said that regional governments will have a hand in land division. To what extent will this prevent achievement of national goals?

It appears safe to forecast lengthy discussions on the question of land division not only in the technical committee hearings but also in the Cabinet and later in the Parliament. The criticisms will likely center more on the methods than on the principle of land division. Among the most important questions will be methods of financing, effects on production, and means of selecting land and new small holders. That there will be action of some sort seems certain; the timing and detailed procedures are not clear.

Agricultural Research And Education in Korea

United States troops have left South Korea, but Western influence remains, especially in the nation's agricultural aspirations.

by FORD M. MILAM



For the first time in nearly half a century, agricultural research and education in South Korea has been geared to the needs of the people.

No longer is agricultural planning pointed at carrying out an Empire program, as under Japanese rule. Instead, the new South Korean Government is trying to adapt research and educational facilities to a national pattern and has embarked upon a program of extension education, which will enable farmers, on a voluntary basis, to make profitable use of the results of agricultural research.

Korea has been behind an "iron curtain" for the past 40 years. Only in recent years has accurate information on its agriculture become available. It may be of interest to review what took place during the dimmed-out period.

When in 1905, after the Sino-Japanese War, Japan



Korean Agricultural Association official teaching farmers to cut seed potatoes.

was given a protectorate over Korea, it had already peacefully infiltrated that country to a great extent. Immediately afterward, an intensive colonization program was initiated, with entire Japanese families being transplanted to Korea and encouraged to adapt themselves to that area. Japan obtained such a strong foothold in Korea between 1905 and 1910 that in the latter year it formally annexed Korea as one of its colonies. From 1910 to the end of World War II, Korea was exploited as a military base and as a source of food and material for Japan. Liberated by the Allies in 1945, Korea became split by the Soviet-Western power disagreement and now is partitioned into North and South Korea.

Today, North Korea is under communist influence, and South Korea is trying to become a democracy, following national and Western traditions.

Japanese Occupation

Korea is a peninsula with a population of 30 million. It has an area of about 85,000 square miles, only 17 percent of which is arable land. With such a large population and with so little arable land, Japan realized that if agricultural production was to expand in Korea, in keeping with the Japanese policy of colonization and Empire expansion, such increase would have to be based upon research findings and practical agricultural education. The old Korean Government had established an agriculture and forestry college at Seoul, the capital, prior to 1905. By 1906 the Japanese had moved this college to its present location at Suwon and had, in addition, established the Central Agricultural Experiment Station near the college. Direction of both college and experiment station was placed under one administrative head. The Japanese attached such great importance to agricultural research and education that the stations and colleges were not placed under the Departments of Agriculture or Education

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but were put directly under the Governor General of Korea.

The Japanese then extended their program of agricultural research and education to the entire country, maintaining 23 branch stations throughout the peninsula, in addition to a number of livestock stations operated by the respective provinces. There were 160 agricultural middle schools, 2 national colleges of agriculture, 16 farmer training schools, and an undetermined number of folk schools. At first, Japan was tactful in this phase of its occupation. The population of Korea is 85 percent agrarian, and, by sponsoring an intensive agricultural program, Japan was able to make formidable inroads on the economy and all other phases of Korean life without too strenuous objections from the Koreans. The agricultural middle-school system was, for instance, a combination of a practical agricultural training center and a military establishment for youth training.

Japan, under this system, made considerable progress in increasing agricultural production. The Japanese plan was not designed primarily to benefit Korea, however, but to meet objectives of the Japanese expansion and colonization programs. First efforts were directed toward practical research in order to acquaint new Japanese settlers in Korea with local conditions. Next step was to increase production by intensive breeding programs, introduction of new varieties, and improved culture methods. The major part of the work was done on rice, for Japan is a rice-deficit nation.

Liberation

The United States Army arrived in Korea in September 1945 to find South Korea in a state of chaos and unrest. Immediately the occupation troops assumed two phases: (1) Tactical forces were designated as security troops and (2) military government took over administration of functions abandoned by fleeing Japanese officials.

Soon after the establishment of military government, there was a reorganization of many governmental agencies, in which the following changes pertinent to agricultural education and research were instituted: (1) The experiment stations (1 main and 16 branch stations) were placed in the Department of Agriculture as a section of the Production Bureau and (2) the Suwon College of Agriculture and Forestry was placed in the Department of Education. This meant that the previously coordinated efforts of resident teaching and agricultural research were now to be

split between two departments. The national Department of Agriculture took immediate steps to maintain and protect the existing agricultural research facilities developed by the Japanese, and, in October 1945, an American military director was assigned to the experiment stations, with headquarters at Suwon. The period from October 1945 until July 1946 was of necessity more in the nature of regulation and protection than of development.

Ninety-eight percent of the technical staffs of the agricultural stations and the colleges had been Japanese nationals. Thus, when by December 1945 the entire Japanese civilian population of South Korea had been repatriated to Japan, there ensued a tremendous shortage of technically trained personnel.

Military Government Rule

In July 1946 the Military Government recruited two qualified civilian directors from the United States to replace military personnel at the experiment stations. First action of the directors was to make a complete survey of all existing facilities and projects at the main and branch stations. This review, completed by the end of 1946, was in fact an inventory of buildings, laboratory equipment, experimental lands, livestock, scientific data, and research projects by name. In January and February 1947 the directors, in consultation with Korean officials of the station, made a critical analytical review of all research work. The final result of this review was the elimination of several projects, which were either nonessential or which were duplicating previous work. All projects were rewritten to include modern experimental design, and a number of new projects were added. The final total of 92 projects dealt with agronomy, animal husbandry, agricultural economics, agricultural biology, entomology, agricultural chemistry, and horticulture.

To partially meet the need for technical Korean personnel, a training school was set up at the experiment stations in March 1947, staffed by the directors and by Korean nationals with college degrees in agriculture. The school, continued until May 1948, was divided into two programs: (1) To train the immediate experiment station staff and (2) to train provincial agricultural officials in practical research. At conclusion of the program, 300 experiment station workers had participated in the former classes, receiving instruction in soils, agricultural geology, agricultural chemistry, field crops, animal husbandry, and experimental design, while 400 Korean agricultural employees had attended the latter courses.

In April 1947, Military Government issued directives to the effect that in all departments and agencies Korean officials would become in fact and title directors, while American directors would be redesignated as advisers. This was known as the Koreanization program. Immediate reaction of the experiment stations, as stated by the Korean director, was:

The Koreanization program might be accomplished in administrative matters but how can we Koreanize the agricultural research program when there is such a grave shortage of trained Korean personnel?

He then requested that the program apply only to administrative procedures and that direction of the technical work remain unchanged. This arrangement was approved and remained in effect until the new South Korean Republic, elected by popular vote in May 1948 and inaugurated in August, took over governmental functions.

Extension

There had been no agency in the Japanese system that gave full time to educational programs for Korean farmers. Extension as known in other countries did not exist. The research findings of the experiment stations were not taken directly to the farmer but were given to the Governor General to be used in carrying out the supreme policy of Japan. Farmers had no choice but to accept what agricultural information was issued through these channels, for the Japanese employed a force of agricultural "compliance" men who saw to it that the directives were enforced. With the surrender of the Japanese, the occupation by American troops, and the repatriation of Japanese officials to Japan, this compliance system went out of existence, severing the only link between agricultural research and the individual farmer.

Korean officials and technical staffs of the colleges and stations were most interested in establishing a system whereby the farmer could benefit from research findings. At the same time, they emphasized that this agricultural information program should have no elements of force such as were employed by the Japanese. In July 1947, a committee of 2 American and 10 Korean agricultural research workers was appointed to draft recommendations for an agricultural information program. In committee deliberations, it soon became apparent that if there was to be an effective program it would have to be a unified endeavor of agricultural research, agricultural colleges and middle schools, and some form of extension. The committee eventually recommended the establishment of an agency devoted to agricultural research, resident

teaching, and agricultural extension and further recommended that the direction of this agency be placed under one individual with suitable training and background. In October 1947 the Agricultural Improvement Service (AIS) was established. The AIS consisted of the agricultural colleges, the experiment stations, and extension service, plus a governing board whose members were recruited from the Departments of Agriculture and Education. The board appointed one individual trained in agricultural education and research to administer the entire agency.

Since the agricultural experiment stations and colleges were already in operation, the greater part of AIS's initial endeavors was directed toward establishing the extension service and getting it under way. National, provincial, and county staffs were appointed, and one agent was appointed for each of the 1,427 districts throughout South Korea. This meant a staff of more than 2,000 Koreans devoting full time to agricultural extension activities. The organization, financed by the South Korean Interim Government, began functioning in January 1948 as a coordinated group and is being continued by the new South Korean Government.

Present Status

Several Koreans are studying on United States campuses to better fit them for leadership in the new Government. The Korean Congress has appropriated funds to continue the extension program. Agricultural stations and colleges are being maintained and utilized, with a nucleus of American consultants to tide over until suitable Korean replacements are available.



Dipping silk-worm cocoons in water, Suwon agricultural experiment station.

Drought in India

India's Gujerat region was rapidly becoming a dust bowl when the rains came late this summer. For more than a year this farming area, which generally supports 5 million people, had had practically no rain. Feed, food, and fiber crops had withered in the fields and wells and lakes had dried up, leaving the families of the area with no food, feed, or water for themselves or their livestock and with no income with which to buy them.

To aid the drought-stricken area, the Government set up emergency assistance. Water was hauled daily to ration centers, money was lent to farmers for well construction, work projects were organized to provide employment, and feeding camps for livestock were established.

After the heavy rains of June and July, life in the region began to return to normal. Farmers now are looking forward to good crops in the coming year.



Water ration center. The only water in some of the drought areas was that hauled in by the Government.



Dust blew across once green pasture lands as water buffalo searched for feed and water.



Fields of cotton were killed by the drought.



The best cattle were cared for in Government camps.



Work projects gave farmers their only income.

Bilateral Trade Arrangements Of the United Kingdom

by DORIS DETRE RAFLER



The bilateral trading arrangements of the United Kingdom, whether bulk-purchase contracts or trade and financial agreements, have had a serious impact on United States farmers. At the same time that their domestic markets are being assured by agricultural price-support programs, their major prewar foreign markets have been drastically cut by the trade and financial policies of the British Government.

The United Kingdom has always been dependent on imports for the major share of its food and raw-material supplies. The practice of Governmental bulk purchase, which was expanded during the war to include most food and raw materials, has been continued in recent years. Furthermore, in the postwar period, especially since the summer of 1947, in an effort to obtain increasing supplies of such imports from non-dollar sources, Britain has been a leader in the conclusion of bilateral trade deals. These bilateral arrangements, together with exchange controls and import and export licensing, are designed to encourage trade with the sterling area and other soft-currency countries and conversely to limit imports from dollar and other hard-currency countries. Since these various measures effectively direct the flow of trade, they have greatly reduced the importance of tariffs and the system of imperial preference; currently the main use of the preferential system to the United Kingdom is in choosing dollar markets or sources of supply in Canada rather than in the United States. Also, since the balance of trade is to a great extent predetermined under the bilateral purchase and trade pacts, they contribute to the maintenance and extension of the sterling area. The earlier relatively short-term trade and payments agreements were described as temporary measures. Usually of 1-year duration, they contained lists of commodities the shipment of which each country agreed to permit up to the quantities and values specified.

But, as the British dollar shortage continues despite Economic Cooperation Administration assistance, the United Kingdom has been expanding the scope of its bilateral deals with Eastern European as well as

Western European and other countries. The tendency is to extend the trade agreements over a number of years and to combine the bulk-purchase contracts with long-term production expansion plans involving the use of British capital. Both these measures may help to make permanent the "temporary" loss of a large part of the British market for most United States farm products.

Bulk-Purchase Contracts

Bulk-purchase contracts provide for British Government purchases of a significant portion of a particular product of another country. In 1948, such contracts, which vary in duration from 1 to 15 years, represented one-half the total retained imports into the United Kingdom and specifically 92.5 percent of all retained imports of foods, feeds, and beverages and 55.9 percent of all raw materials, chemicals, and metals. In that year, United Kingdom imports of bulk-purchased grains and cereals (coarse, refined, and processed) were valued at \$716 million; meat, bacon, and fish at \$438 million; tea, cocoa, and coffee at \$316 million; sugar and glucose at \$195 million; fruits and vegetables at \$180 million; dairy products, eggs, oils, and fats together at \$920 million; and raw cotton at \$375 million. Under the current food contracts, the British Commonwealth countries supplied Britain with 97 percent of its wheat, 55 percent of its meat, 87 percent of its cheese, and 79 percent of its butter.

British Government contracts are with both Governmental and quasi-Governmental agencies and with private exporters or exporters' associations. Mr. Strachey, British Minister of Food, described the characteristics of these bulk-purchase contracts in Parliament on January 20 of this year:

There are in existence today some 40 of these contracts of varying terminal dates; . . . Many of them contain annual price reviews; others price variations within a given amount, say 7½%, upwards or downwards in each year; some of them are for fixed quantities of produce; some are for the exportable surplus of the country with whom the contract is made, and others for a fixed proportion of the exportable surplus, say 95% . . .

Long-term contracts with Governmental organizations are for wheat and flour with Canada, copra and

coconut oil with British colonies, sugar with Australia and South Africa, eggs (fresh, frozen, and dried) with Denmark, Eire, Australia, South Africa, Poland, and Hungary, meat with Australia, New Zealand, and Argentina, bacon with Denmark, Eire, the Netherlands, and Poland, processed milk with New Zealand, butter and cheese with Australia, New Zealand, and Denmark, bananas with Jamaica, cocoa and coffee with the African colonies and Jamaica. Long-term agreements are in effect also in regard to forest products from Poland, tobacco from Southern Rhodesia, cotton, peanuts, and oils from Nigeria, and other agricultural commodities from other countries.

In addition, contracts of 1-year duration cover wheat from Australia, meat from Uruguay, bacon from Canada, tea from Ceylon and India, dairy products from the Netherlands, bananas from the Cameroons, eggs from Canada and the Netherlands, and canned pineapple from British Malaya.

Contracts with private exporters cover palm oil from Malaya, sugar from the British colonies and the Dominican Republic, meat from Guatemala, starch from the Netherlands, and orange juice from the British West Indies.

Details of some long-term contracts follow:

Australia

Perhaps the longest contract is with Australia, with a British guarantee to purchase the exportable surplus of meat in Australia, up to a specified ceiling for 15 years. As a result of the development of Australia's cattle industry, meat exports to Britain are expected to increase from 250,000 to 400,000 tons annually. The current annual agreement with Australia provides for the purchase by the United Kingdom of 60 million bushels of wheat, a large part of which will be shipped to other commonwealth countries.

Canada

In 1946, Canada contracted to supply the United Kingdom with a total of 600 million bushels of wheat over a 4-year period ending in 1949-50. During the current year the United Kingdom has agreed to purchase 140 million bushels, at \$2 per bushel.

New Zealand

Under a 1948 contract, Britain contracted for New Zealand's entire export surplus of meat for 7 years, except pork for which the contract runs only to 1952. Prices are subject to a maximum variation of 7.5 percent annually. New Zealand's average export surplus of 344,000 tons is to be increased by 50,000 tons

by 1955 with the aid of British capital, machinery, and materials. The agreement with New Zealand also covers the purchase of nearly all of its butter and cheese. Present discussions have extended the scope of the agreement to cover buttermilk powder, with an increase in shipments from 200,000 tons in 1949 to 600,000 in 1955.

Nigeria

The agreement with the Nigerian Produce Marketing Company for their entire exportable surplus for 3 years, beginning January 1, 1950, is expected to supply the United Kingdom with raw materials equivalent to 500,000 tons of oil per year, representing about 40 percent of Britain's present usage of edible oils and 48 percent of the technical oils.

Denmark

The latest butter agreement with Denmark for 6 years beginning October 1, 1949, provides for 75 percent of the exportable surplus butter, but not more than 118,000 tons, subject to annual price revision of 7.5 percent each way. In addition, a contract was made covering 85 percent of Denmark's exportable surplus of eggs, as part of a 3-year agreement, which expires October 1, 1950. The 15-month bacon agreement through December 1950 provides for Danish shipments to the United Kingdom of 118,000 tons, about half of Britain's total imports of bacon.

Poland

The food contracts with Poland are part of the general trade agreement with that country, which provide for annually increasing shipments between 1949 and 1953. In 1953, British imports will include 165 million pounds of bacon, 23 million pounds of poultry, and 9 million pounds of canned meats (mainly hams).

British East Africa

The 5-year agreement with British East Africa provides for annual shipments of coffee totaling 26,000 tons.

British West Indies

Late last year, a 10-year agreement was signed with an association of citrus growers for annual shipments of a maximum of 5,000 tons of concentrated orange juice from the West Indies. The contract provides for annual price review.

General Trade Agreements

With Western Europe, and with certain other countries, the bilateral trade pacts are of relatively short duration. Mainly they involve the exchange of British manufactures and coal and commonwealth products for the food and raw materials of the Western European countries and their overseas dependent territories. While efforts are made to restrict the im-

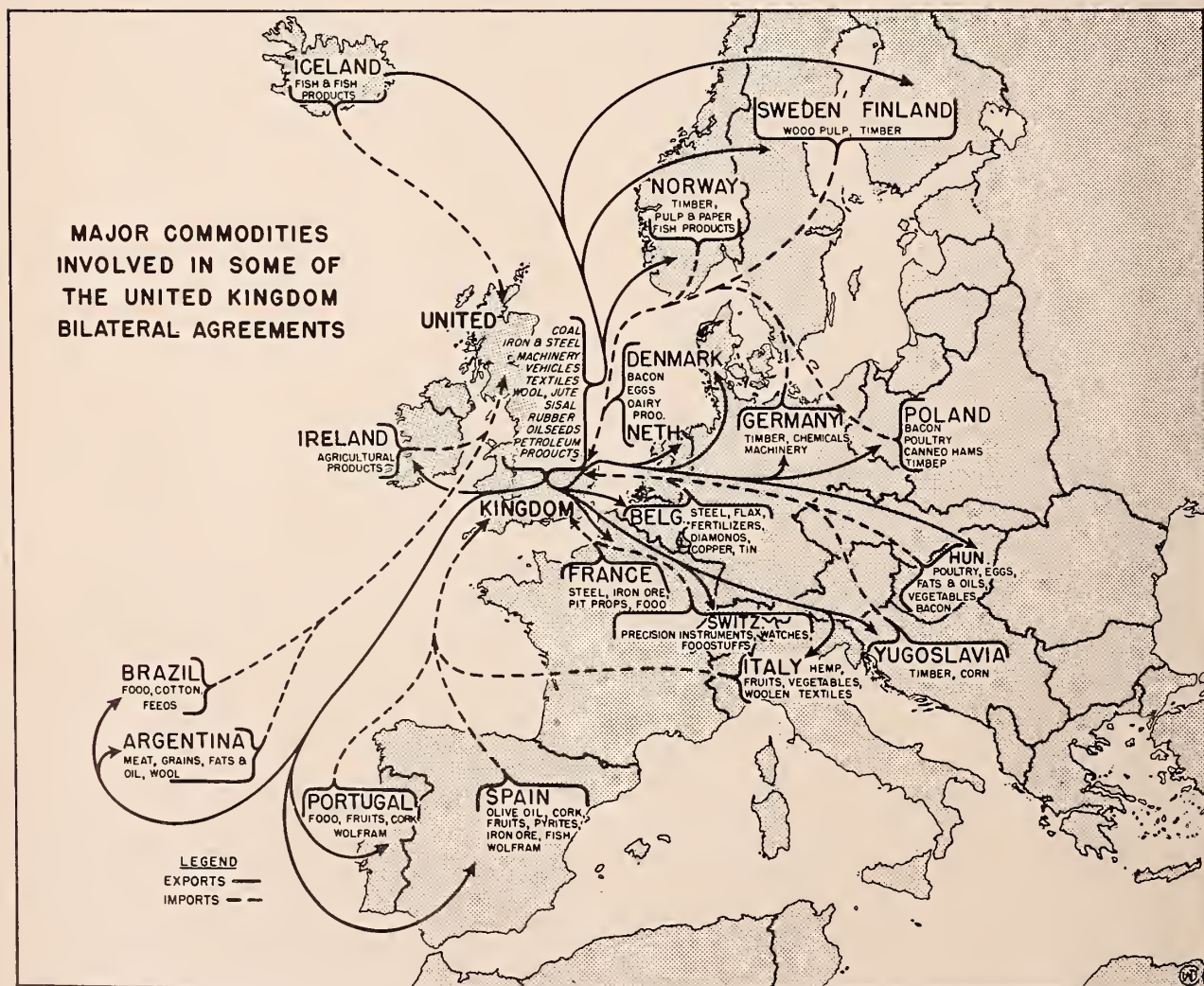
Mrs. Rafter is Economist, OFAR.

portation of goods classed as nonessential, certain agreements are contingent on imports of small quantities of such goods either as a basis of getting "essential goods" or as a means of selling British "nonessentials." Trade with Western Europe is conducted on a basis of clearing agreements, with definite quota provisions only in regard to essential commodities.

In the accompanying payments agreements, the United Kingdom has tried to reduce the need to settle in gold or dollars outstanding balances resulting from merchandise trade and other transactions. This has been done either by eliminating existing provisions for settlements in gold or dollars or by raising the amount of sterling balances that other countries would have to hold. The former was done in the case of Sweden and Norway; the latter, in the agreements with Western Germany and Belgium. In all cases, the United Kingdom has tended toward a more careful bilateral

balancing of payments with its trading partners.

With Eastern Europe, the United Kingdom is planning to conduct its trade essentially in the form of detailed barter. The total value of the United Kingdom's trade with Eastern Europe was relatively unimportant even in the prewar period. As a result of political and economic changes, the export potential of satellite countries with respect of agricultural products has been greatly impaired. The Soviet Union, however, has resumed its position as a source of grains. Trade discussions between the United Kingdom and Eastern European countries reflect an attempt to secure available exports of these countries and keep Eastern European markets for British goods. The projected agreements with the satellites are of long-term duration. As part of these agreements, the United Kingdom wishes to bring about satisfactory settlement of British claims for nationalized property.



The bulk-purchase contracts with Argentina, Brazil, Denmark, Hungary, Iceland, Eire, the Netherlands, and Poland are within the framework of general trade agreements.

Latin America

Argentina. The 5-year trade and payment agreement with Argentina, effective July 1, 1949, provides for an approximate balancing of trade. During the first year, Argentine exports, to total \$522 million, will include 300,000 to 400,000 long tons of meat, 20,000 tons of canned corned beef and/or mutton, and specified quantities of grains, fats and oils, wool, hides and skins, and other raw materials. In exchange the United Kingdom will supply petroleum and petroleum products, coal, iron and steel manufactures, chemicals, machinery, ships, and a wide range of manufactured goods, to a total value of \$492 million.

Brazil. The agreement with Brazil for the period ending March 30, 1950, provides for a total trade of about \$290 million. Britain will exchange petroleum products, machinery, and vehicles for cotton (70,000 tons), food, and feeds. Brazil's declining agricultural production in some products has limited the amount of rice, sugar, corn, and oilcake Britain was able to purchase.

Western Europe

Denmark, Eire, and Iceland. As part of the 1949 agreement with Denmark, in addition to the bulk purchase of butter, bacon, and eggs, the United Kingdom will import other foodstuffs including cheese, condensed milk, meat, and fish. Imports from Denmark totaled \$170 million in 1948. Britain has agreed to furnish Denmark with coal, iron and steel, oilseeds, petroleum products, yarns, and chemicals. In 1948, British exports and re-exports to Denmark totaled \$124 million.

For 4 years, ending July 1, 1952, the United Kingdom agreed to purchase the exportable surplus of all of Eire's agricultural products, mainly fat cattle, lambs, mutton, bacon and eggs, in exchange for British coal, farm machinery, textile raw materials, and small-scale industrial equipment.

The agreement with Iceland for the year 1949 provides for purchase by the British of substantial quantities of frozen fish and other fish products, including herring meal, and a minimum of 12,000 tons of herring oil. Exports to Iceland from the United Kingdom are expected to cover a wide range of goods important to Iceland's economy, including limited quantities of coal and steel.

Netherlands. The agreement with the Netherlands for the year 1949 involves an exchange of goods in each direction valued at \$243 million, a considerable increase over the 1948 figure. These amounts include the bacon, egg, and dairy product contracts referred to above. Seventy-two percent of the British imports from the Netherlands will consist of agricultural prod-

ucts. British exports will include coal, steel, and many items needed for the reconstruction and expansion of Netherlands industries. The trade with Indonesia is separately provided for.

Belgium-Luxembourg. The 18-month trade and payments agreements with Belgium and Luxembourg, effective January 1, 1948, were extended through September 1949 with proportionate increases in the original agreement. Belgian exports of steel, flax, fertilizers, copper, tin, and uncut diamonds were to be exchanged for an equal value of sterling-area coal, sisal, oil, and less-essential goods. Although merchandise trade between the United Kingdom and Belgium was in balance during the 18-month period, the sterling area as a whole bought more than it sold and had to ship considerable amounts of gold to Belgium.

Western Germany. The trade agreement for the year ending June 30, 1950, provides for exports from Western Germany consisting largely of textiles, steel scrap, timber, chemicals (including potash), and machinery. These German goods will have a value of \$168 million of which \$108 million will go to the United Kingdom. Sterling-area exports to Germany will total \$157 million, with additional carry-over of \$15 million to \$23 million from a previous agreement. Major sterling-area exports will be wool, cotton and other textiles, rubber, hides and skins, crude oil, metals, chemicals, machinery, and food.

France and Italy. Trade arrangements with France and Italy are not embodied in a single agreement but are subject to periodic review. Under the plans for 1949, exports from France and its colonies are expected to total \$571 million and will consist of steel scrap, iron ore, cast iron, railway sleepers, pit props, potash, silks, hides and leathers, glassware, and foodstuffs (mainly cheese, sardines, walnuts, and wines). Sterling-area exports to the French monetary area will include coal, oil, wool, cotton, jute, copper sulfite, machine tools, and nonferrous metals for a total of \$367 million. During 1947 and 1948 the French balance of payments with the United Kingdom was unfavorable, despite British loans under the Intra-European Payments Scheme. The 1949 plans seek to correct this situation by increased British purchases of French steel products.

The trade arrangements with Italy for the year ending June 30, 1950, provide for British exports of \$210 million, of which \$97 million will be from the United Kingdom. Italian exports to the sterling area will total \$134 million, of which \$119 million will be to the United Kingdom. Britain's planned exports to Italy will include coal, machinery (both considerably increased over 1948), aircraft engines, breeding cattle, textiles, and copper sulfate, in exchange for about \$70 million of foodstuffs (cheese, citrus fruits, almonds, tomatoes), hemp and twine, and woolen textiles. The agreement for the year 1949 had envisioned a balanced trade of about \$320 million to \$340 million, but Italy has seemed reluctant to spend its sterling balances accumulated in 1948 on relatively high-priced

British products unless they were to consist largely of industrial plants and equipment.

Switzerland. The agreement with Switzerland hinges upon Britain's permitting tourist travel in Switzerland and shipping coal to that country. In exchange, Switzerland will undertake to increase its imports from the sterling area.

Under the agreement ending in March 1950, sterling-area exports of all classes are expected to total about \$145 million and Swiss exports to the sterling area, close to \$200 million. British exports, in addition to coal, will include machinery, military equipment, and locomotives in exchange for Swiss watches, precision instruments, chemicals, machinery, and foodstuffs.

Spain and Portugal. The trade agreement with Spain for the year ending June 30, 1950, provides for a balanced trade of about \$140 million each way. In 1948, United Kingdom exports totaled \$59 million against Spanish exports of \$128 million. The differential exchange rates established by Spain this year are expected to result in British exports four times as large as those in 1948 and to counteract the adverse effect on Britain's trade balance caused by Spanish import controls on nonessentials. Spanish exports under the agreements will include oranges, grapefruit, tomatoes, nuts and dried fruits, bananas, fruit juices, olive oil, canned fish, hides and skins, iron ore, cork, pyrites, superphosphates, and wolfram. United Kingdom exports, in addition to coal, include nitrogenous fertilizers, iron alloys, textile machinery, cotton, jute, sisal, tin and other metals, minerals, vehicles, special steel, and miscellaneous manufactures and raw materials.

In the case of Portugal, the balance of trade during 1948 was favorable to Britain. Of a total trade of \$112 million, British exports totaled \$96 million. The extension of the financial agreement in force between the two countries to April 15, 1950, provides for a balanced trade between them (thus no loss of gold on either side) and considerably curtailed imports on the part of Portugal, particularly of vehicles, textiles, and nonessentials. Portugal will continue to export cork, resin, wolfram, timber, and sardines, and somewhat larger quantities of fruits and others food. British exports will consist mainly of machinery, machine tools, and oil.

Sweden and Norway. The agreement with Sweden for the year 1949 provides for Swedish exports of \$220 million and United Kingdom exports of \$250 million. Total Swedish trade with the United Kingdom is expected to amount to about \$70 million, a 25-percent increase over the 1948 figure, almost entirely due to larger Swedish exports. Under the trade agreement, Swedish exports will consist primarily of wood pulp, timber, pit props, and other forest products in exchange for machinery, vehicles, chemicals, minerals, and textiles. In 1949 the United Kingdom has replaced the United States as Sweden's major trading partner.

The major portion of Norway's exports under the trade agreement for 1949 (the first between the two

countries) will consist of timber, pulp and paper, and fish products. Total Norwegian export trade, including invisibles, may have a value of close to \$200 million, with British exports of coal and coke, steel, oil, cotton yarn, military stores, and ships to total somewhat more than that.

Eastern Europe

Soviet Union. A large-scale barter agreement with the Soviet Union has been under negotiation. The total value of commodities involved is reported to be \$400 million both ways. Shipments have already begun on British purchases of 1 million tons of coarse grains and 100,000 standards of timber. When signed the trade agreement will provide for additional Soviet exports of wheat, corn, timber, potash, and canned fish in exchange for machinery, ships, rubber, and wool.

Poland. The 5-year trade and financial agreement provides for an exchange of goods to total \$525 million each way during 1949-52. Britain will import foods and timber in annually increasing quantities in exchange for wool, rubber, crude oil, tires, dyestuffs, capital equipment, and industrial goods. In addition, there will be an exchange of miscellaneous goods by both sides, determined annually. As part of the agreement, Britain has granted extensive credits to Poland, and Poland has promised to pay compensation for nationalized property and to release frozen assets as partial liquidation of previous credits granted by British investors. In 1948, Polish exports to the United Kingdom were valued at \$141 million and British exports to Poland, at about \$82 million.

Finland and Yugoslavia. The agreement with Finland for the year 1949 provides for British exports of \$106 million and Finnish exports of \$127 million. British coal and coke, steel, oil, wool, rubber, jute, chemicals, and machinery will be exchanged for Finnish wood pulp, timber, and other forest products.

In the case of Yugoslavia also, the bulk of British imports under the trade agreement for 1949 will consist of timber, followed in importance by pit props, pulpwood, and corn. Britain will ship textiles, crude oil, tires, and machinery. Exports by each side will total about \$60 million. A similar, 5-year agreement is now under discussion containing provisions for reparation payments as well as \$24 million to \$40 million in British credits to finance Yugoslavian imports of capital equipment.

Hungary. The trade with Hungary is partly "free" and partly under a 3-year agreement ending July 31, 1950. Britain imports mainly food and will provide, in return, rubber, wool, cotton, jute, and vehicles.

Other countries. The United Kingdom has not been able to reach agreement with Rumania, Bulgaria, and Czechoslovakia. The current trade discussions with Czechoslovakia in regard to a 5-year agreement involve Czech exports of timber, sugar, and less-essential commodities, with provision for indemnifying British interests from part of the proceeds.

A projected 1-year trade agreement between Japan and the British Commonwealth is said to aim at trade totaling \$600 million, almost three times the 1948 volume. As part of the agreement, Japan would use its sterling balances for imports of rubber, tin, iron ore, wool, and salt, and not call for dollar settlement of these balances. British purchases from Japan consist mainly of textiles, silk, and light machinery.

Land Colonization in Jalisco, Mexico

By EDWARD N. McCULLY

Five years ago the Government of the State of Jalisco, in west-central Mexico, began a program of land colonization to expand the agricultural production of the State. Within the past 2 years the program has progressed substantially. Part of the financing has been done by the Government of Mexico. In 1948, nearly 25,000 acres of new land were opened for cultivation, and this year an additional 37,000 acres are expected to be ready, bringing the total acreage of land farmed in the area to 125,000.

It is the objective that about 250,000 acres of new land can be put into cultivation. Before this goal can be reached, however, mechanization must be introduced, irrigation facilities must be increased, and roads must be built and improved.

The southwestern part of the State, which I visited in January, contains heavily timbered mountains, fertile subtropical valleys, and tropical lowlands along the Pacific coast. This region is almost entirely agricultural. Corn, beans, rice, sesame, pineapple, coconut palms, sugarcane, tobacco, bananas, and garden vegetables are the principal crops. Two crops of corn, rice, and beans are grown a year. There is also some lumbering and hunting and fishing in certain parts of the area. Livestock is abundant in the region but generally is of poor quality.

About 30 percent of the arable land is owned by small farmers, 20 percent by ejidatarios—individuals to whom the Government has given 20 to 40 acres of land—and about 50 percent is controlled by 16 haciendas—an estate exceeding 2,400 acres. Titles to most of these haciendas have been handed down from

Spanish colonial times. From the Mexican Revolution until a few years ago, agricultural output on most of the haciendas was very low. But when the owners got "Certificates of Inaffectability," guaranteeing that their lands would not be taken for distribution to tenants, production increased considerably. Mechanized agriculture has been introduced on several of the haciendas recently.

The land of the region is fertile and the climate tropical. Under these conditions, plant growth is heavy and cultivation must be intense. Land on which corn was harvested only last November was already overgrown with brush and weeds several feet high when I saw it less than 3 months later. It is evident that without further mechanization little progress can be made in opening new land and keeping it under cultivation. But much of the land now being farmed is still covered with stumps that would have to be removed.

At present, there are only about 60 tractors in operation in the region, and the farmers estimate that one tractor is needed for every 370 acres. Those farmers who do have mechanical equipment find it difficult to get competent operators and break-downs are frequent. Furthermore, there are no repair shops available. Small landowners complain that agricultural implement dealers do not provide liberal credit terms or sufficient instruction on how to use mechanized equipment. One tractor dealer in Guadalajara, however, has offered better terms than the others and has been able to sell his product by providing instruction and servicing. Most of the small farmers now use oxen to pull the plows, and they sow the seed by hand.

There is a shortage of labor in the area. Several farmers said that they could not get enough workers and that most of those they did get would not work hard or stay long.

In addition to mechanized agriculture; southwestern Jalisco must have modern irrigation methods before its land can be fully developed. During the rainy season, from June until September, the many mountain streams provide sufficient water for the crops. There are a few storage dams in the area now that provide water for irrigation during the dry season, but more will have to be built. The Government has constructed several canals to prevent the fields from being flooded during heavy rains.

Another problem that must be overcome is that of transportation and communication. The State Government realizes this, and began several years ago to extend and improve some of the roads.

Mr. McCully, Vice Consul, American Consulate, Kingston, Jamaica, was Vice Consul in Guadalajara, Mexico when this article was written.

Food Aspects of the Berlin Airlift

by P. E. QUINTUS



The Allied airlift to Berlin will soon be terminated. Begun as an emergency measure shortly after Russia stopped rail, barge, and truck traffic into Western Berlin in May 1948, the airlift supplied 2.2 million people with food and fuel and their laboratories, offices, and factories with equipment for more than a year.

Since May 1949 when Russia lifted the blockade, the Allied airlift has been continued, to build up a stock pile of food and fuel. Now that this stock pile has grown to about a million tons, the city can be supplied normally, and the need for the airlift no longer exists.

The planes of the airlift and the men who piloted them have been headlined in news stories around the world, and deservedly, but little has been written about the problems of those who assembled the supplies, packaged them, and loaded the planes.

This responsibility was given to the Bipartite Control Office in charge of food distribution and rationing (BICO) in the United States-United Kingdom zones of occupation. When BICO officials assumed this responsibility on June 25, 1948, they made plans to meet what everyone thought was a short-time need. But as the days and months passed, these plans were altered again and again until the airlift became so efficient that a month's supply of food could be flown into Berlin in only 6 days.

Supplying a prescribed ration for 2.2 million people by air is a gigantic task, but with the close teamwork between military and civilian agencies, between Allied and German agencies, and among the Western Allies, the operation has been successful.

When the blockade began, trains and trucks loaded with food for Western Berlin were stopped at the zonal boundary and barges were tied up in canals. These consignments, and shipments enroute, were soon diverted to airfields, and foodstuffs began to reach Berlin by air ahead of schedule. Significantly, it was demon-

strated that the ordinary packages of rail commerce could be delivered by air with no alterations. German-milled flour at 220 pounds per bag, United States dried milk grossing 250 pounds or more per barrel, and feather-weight macaroni could all be transferred from trains to planes.

But these early lifts also demonstrated that proper packaging was most essential to efficient use of air space. With a large city depending on the air bridge for its food, coal, and other essentials, efficient use of space was of primary importance. With this in mind, several steps were taken from the outset, and many more later, to achieve the greatest net food value per plane load. This took the form of package specifications, dehydration of foods whenever possible, and the selection of foods of the highest quality. Progress in some respects was slow, partly because of the difficulties to be overcome, but largely because the airlift was first considered a temporary expedient, which would end any day and thus not justify the capital expenditures and the disturbances involved in making the improvements.

From the standpoint of packages, imported United States flour packed in new bags at 100 pounds net weight was considered ideal. There were several reasons for this. First, it was the proper weight for laborers. Heavier packages were too difficult to lift from the truck to the level of the plane door, and, with lighter packages, more time was required to load a plane to the prescribed weight. New bags were important because they seldom broke in handling or under the pressure of the lashing ropes. Furthermore, bags of flour were ideal for balancing the plane's load properly, and the maximum weight capacity of the plane could be reached without taxing its cubic footage. Perhaps most important of all was the quick and accurate determination of the weight of the load. The Air Forces ruled that no plane could take off with less than a maximum load—a matter of efficiency and performance—and the capacity figure varied from plane to plane. Yet any overload meant danger, and perhaps death, to the crew. So a uniform 100-pound package with a standard tare weight left little chance for error. By contrast, freight cars and trucks containing packages of various weights were a constant source of trouble and danger, especially during dark rainy nights. Therefore, standardized packages for German-

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milled flour, sugar, and semolina soon became the rule, and eventually package standards were established for all foods consigned to the airlift. The maximum tare weight allowed was 6 percent.

Package specifications did not solve the whole problem, however. For example, it is not possible to get 20,000 pounds of noodles into a C-54 no matter how it is packed. This meant that it was necessary to mix loads in the correct proportion of heavy- and light-weight materials. From the standpoint of coordinating the flow of supplies to the airfields, it meant that the schedule of consignments had to carry out this weight ratio. With seven different airfields handling food and with the food-lift quota frequently changing among the fields, this aspect of the consignments required constant attention.

Conserving air space by dehydration applied especially to potatoes and other vegetables. To meet the prescribed ration, Berlin potato requirements alone were 33,000 short tons per month and total food tonnage was something like 66,000 tons. It was apparent that shipping fresh potatoes and other fresh vegetables, with their high moisture content, was not consistent with efficient use of air space, and none were sent in the fresh form. All other means of saving space were adopted. The daily requirements of fresh yeast, for

example, were only 3 tons, but dehydration reduced this weight by two-thirds. Real coffee was rationed at the rate of 1:2 against coffee ersatz. Thus, as soon as supplies could be arranged, real coffee and tea were sent instead of ersatz. When all these little and big savings were combined, it was found that the nutritive value of the 66,000 tons could be compressed into a little more than 33,000 tons. Later on, the ration was raised substantially and about 44,000 net short tons monthly covered all food requirements. This is a tremendous tonnage to associate with an airlift, but by the time the operation was in full swing, 1 month's food requirements for the city could have been sent in about 6 days' flying time. The other 24 days were required for coal, liquid fuel, military supplies, and other essential industrial products.

The official Berlin ration was composed of bread, potatoes, cereals, meat, fat, sugar, cheese, milk, ersatz coffee, and vegetables. By multiplying the authorized ration for each item by the number of persons in each consumer category, establishing the tonnages required for each rationed item was a simple mathematical procedure. But the practical implementation of the ration was quite a different matter. There had to be variety in the food actually reaching the consumer. This is always an important consideration, but par-



ticularly so during such an ordeal as the blockade when the morale of the population needed strengthening. Then, too, the blockade affected the problem of the food supply in another way. With electricity turned off most of the time and gas available not more than an hour a day, only quick-cooking foods were acceptable in Berlin. Thirty minutes' cooking time was the maximum and the goal was less than half of that. Of course, coal was flown to Berlin to cover the requirements of the essential bakeries, so that bread, the largest single item in the diet, was baked outside the homes.

From the standpoint of supply, the bread ration became an order for specified tonnages of three types of German-milled wheat flour, imported white flour, rye flour, and a small quantity of cake flour. The cereal ration, kind of a catch-all in some respects, included farina, rolled oats, noodles, rice, peas and beans, dried fruit, dehydrated soups, and a variety of baby foods. The rice had to be processed and the beans precooked and dehydrated. The meat generally consisted of one-third meat, one-third fish, and one-third dried eggs. The dried eggs contributed to variety and helped reduce the lift tonnage because they could be rationed against meat at the ratio of 1:3. Fish, another variety item, presented a difficult transport and storage problem, which was eventually

solved with general satisfaction. To come within the 6-percent tare, all heads, tails, and inedible parts were removed, and deliveries made as fresh-frozen fillet or specially processed smoked herring.

In the early months of the blockade, all meat was shipped in tins. In general, this was the only tin permitted on the airlift because of the weight factor. Later, with cooler weather and a better all-around airlift organization, fresh-frozen boned beef and pork were flown in, to the great delight of the Berlin population.

Fat requirements were met with certain proportions of butter, margarine, and lard. Butter, however, was limited to hospitals and consumers holding sick cards. Large amounts of imported United States honey were substituted against the sugar ration, and, on several occasions, chocolate was issued against sugar coupons. Children under 10 years of age received dried whole milk and older persons received varying rations of non-fat dried milk solids.

Vegetable seeds and fertilizer were also shipped to Western Berlin. They required less air space than would the food that could be grown in home gardens. Delivery quotas were established for seeds and fertilizer, and locally grown foods counted against the ration.

There were no food deliveries that did not count directly against the ration on the caloric equivalent basis except salt. Although Berliners had to have some 1,200 tons of salt a month to make their food palatable, it was the only item that the United States Air Forces refused to carry. The salt corroded their planes. For a time, it was thought that it would have to be repacked in metal drums. But the British volunteered their flying boats, which were impervious to salt brine. When these could no longer be used because of ice on the lakes on which they had been landed, the salt was shipped in the bomb bays of British four-motor bombers in which it could be carried below the plane controls.

A question frequently asked is to what extent imported foods, particularly those from the United States were sent to Berlin. It is an exceedingly difficult question to answer except in general terms because of the manner in which imported foods were handled. In another respect, it would be meaningless if it were answered. Take flour, for example. More than 50 percent of the requirements of Bizonal Germany were imported, largely from the United States and largely in the form of wheat. After the wheat reached port, it all went into the Bizonal food pool along with in-



Unloading flour in Western Berlin. Proper food packaging was important during the airlift for economic use of air space and handling.

indigenous grains. Most of Berlin's flour was milled in German mills, and if it happened to be milled from imported wheat, it merely meant that more indigenous wheat remained for Bizonal consumption. The same could be said of farina, sugar, and other commodities. Noodles were manufactured in Bizonal Germany for Berlin's use, mostly from imported flour to obtain the proper degree of whiteness. Also, large amounts of imported white flour were sent directly to Berlin, where it was held in great esteem. All dried milk and eggs and fruits, as well as honey and rice, were imported. Meat, fish, cheese, and many other items, like flour, were of both domestic and outside origin. Dehydrated potatoes and other vegetables were imported in large quantities before German plants were brought into full production. All lard was imported and margarine made mostly from imported oils. The butter was of German origin.

In general, Berlin was supplied largely, either directly or after further processing, from imports—certainly to a much larger degree than Western Germany. There were two main reasons for this. First, Western Berlin was considered a priority claimant on the food resources of Western Germany. Rather than depending on the German administration supplying consignments completely and promptly, it was much simpler and more certain for the Allied authorities to get requirements at port, where they had full control, and divert the necessary quantities to Berlin. Secondly, many imported foods were not available in sufficient quantities to make a general distribution in the Bizonal area but were sufficient for Berlin and added variety there. Certain dried fruits, honey, rice, processed meat, and chocolate are cases in point.

From the standpoint of Berlin consumers, the blockade affected their eating habits very little. Dried milk had to be substituted for fresh milk formerly obtained from the Russian zone. This change was accepted with but little repercussion. From a quality and health angle, the situation was actually improved. As already pointed out, every effort was made to widen food variety in Berlin during the blockade, and this was carried out with reasonable success. The only real loss in palatability or consumer acceptance was in the substitution of dehydrated potatoes for fresh potatoes. Unfortunately, this was looked upon as a real hardship and tended to obscure all the other attempts to improve the diet. After large quantities of expensive dehydrated potatoes were produced or purchased on the outside, it was found that consumption had fallen to a fraction of calculated requirements. Con-

sumers were clamoring for other substitutes in the form of white flour, pulses, rice, and cereals. While a satisfactory solution was still under discussion, the road and rail blockade was lifted, and the first food trains to head back to Berlin were loaded with fresh potatoes.

INTERNATIONAL

Agricultural News

Norway Launches FAO's 1950 World Census of Agriculture

Norway is the first member government to begin participation in the Food and Agriculture Organization's 1950 World Census of Agriculture. Information now being gathered on agriculture, forestry, and fisheries will be important not only to Norway's own agricultural developments but will also be used by FAO as part of a statistical report on world agriculture more comprehensive than has ever been attempted before. The 1950 world census of agriculture is being conducted by FAO's 58 member countries, but it is hoped that all countries will participate.

A broad search for data is found in Norway's census, including area in crops in 1949; other land uses, such as meadows for pasture, forests, and fallow land; areas in vegetables; number of livestock; number of fur animals on farms; number and types of machines on farms; tenure of farm operators; amount of time worked off the farm by the operator; whether the farm wife works in the fields; whether the farm operator is a trained agriculturist; characteristics of labor on farms—sex, age, wages paid, and such; farm plumbing and wiring; farm expenses; drainage and irrigation practices; and use of silage.

Most countries, it appears, will wait until 1950 to get the census under way. In addition to Norway (and Bizonal Germany where the census has also been taken), however, Denmark, the French zone in Germany, and Austria plan to conduct the census in the present calendar year.

This picture of world agriculture that FAO hopes to get through the 1950 agricultural census will be of inestimable value in national and international planning for increased agricultural production and improved distribution of food and other essential products of agriculture.

LARGE PRIVATE HOLDINGS OF ITALIAN FARM PROPERTY ACCORDING TO SIZE AND ASSESSED INCOME

SIZE



ASSESSED INCOME



LARGE AGRICULTURAL ECONOMIC REGIONS	
1 =	ALPINE MOUNTAINS
2 =	HILLS & UPLANDS EXCLUDING EMILIA
3 =	PO VALLEY
4 =	LIGURIA
5 =	CENTRAL ITALY EXCLUDING THE MTS. & HILLS OF EMILIA
6 =	APENNINE MTS. NORTHERN & CENTRAL
7 =	SOUTHERN ITALY
8 =	SICILY
9 =	SARDINIA

ADAPTED FROM MAP
PUBLISHED BY GIUSEPPI MEDICI
IN LA DISTRIBUZIONE DELLA
PRIORIETÀ FONDIARIA IN ITALIA
ROME, ITALY - 1948

While the Po Valley of northern Italy has relatively few farms containing more than 1,000 hectares (2,500 acre s), assessed farm income in these areas is among the highest in the country.